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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,677	12/13/2001	Kenneth L. Levy	P0502	9557

23735 7590 01/03/2006

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EXAMINER	
POLTORAK, PIOTR	
ART UNIT	PAPER NUMBER
2134	

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,677	LEVY, KENNETH L.	
	Examiner	Art Unit	
	Peter Poltorak	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment, and remarks therein, received on 10/25/05 have been entered and carefully considered.
2. The Amendment introduces a new limitation into the originally sole independent claim 1 and dependent claim 2 as well as ten new claims 10-20.
3. The newly introduced limitation has required a new search and consideration of the pending claims. The new search has resulted in newly discovered prior art. New grounds of rejection based on the newly discovered prior art follow below.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Response to Amendment

5. Applicant's arguments have been carefully considered but they were not found persuasive.
6. Applicant mainly argues the newly introduced limitation, which necessitated a new consideration and prior art. As a result applicant's arguments are addressed in this Office Action, below.
7. Also, applicant clarified the term "each instance" as referring to "a session or across different sessions of embedding in a content signal". As a result the previous 35 U.S.C. 112, second paragraph rejection directed towards claims 1-9 has been withdrawn.

8. Applicant amended the specification in order to acknowledge all of the objects shown in the drawings. As a result, the objections to drawings have been withdrawn.

9. Claims 1-20 have been examined.

Claim Rejections - 35 USC § 112

10. Claim 1-9 and 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.

11. The term: "content title" in claims 1-2 and 19-20 is not clear. The specification recites: "Since the method is generally applicable to a variety of broadcast content, FIG. 2 represents the content generally as a "media content signal" 100. This signal represents a content title, such as a program, movie, or song."
For purposes of further examination the phrase is treated as content such as a program, movie, or a song.

12. Claim 1 recites: "embedding applies a different orientation at least across content titles to the digital forensic watermark". It is not clear whether applicant suggests with the claim language that the watermark is placed across a title of a movie for example or whether the digital forensic watermark is placed in various places in title content.

13. The specification do not disclose the first interpretation, and since "titles" are defined as "a broadcast content such as a program, movie or a song", for purposes of further

examination the limitation is treated as the watermark embedded in different places in content (content e.g. movies, songs, etc.).

14. Similarly unclear is the limitation: "embedding the forensic digital watermark, both within a content title and across different content titles" *(claim 19)*. For purposes of further examination the phrase is treated as referring to embedding the forensic digital watermark within various titles (movies, songs, etc.).

15. Claims 3-9 are rejected by virtue of their dependence.

Claim Rejections - 35 USC § 103

16. Claims 1-3, 5-8, 11-12 and 14-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Venkatesan et al. (U.S. Patent No. 6898706)* in view of *Feghhi et al. (Jalal Feghhi, Jalil Feghhi, Peter Williams, "Digital Certificates Applied Internet Security, 1999, ISBN: 0201309807)*.

17. *Venkatesan et al.* teach an object protection using watermarks. Although the object is referred to as software *Venkatesan et al.* teach that the invention encompasses audio or video files *(Venkatesan et al., col. 5 lines 15-29 and 10 lines 1-15)*.

18. As per claim 10 *Venkatesan et al.* teach that the publisher of a given object provides the value of the watermark to a third-party watermarking authority (WA), along with an unwatermarked copy of an object (O). The WA then tests that particular copy to ascertain that it is free of watermarks. Once the WA has determined that this copy is watermark-free and has also received an appropriate certification from the publisher that the copy is not watermarked, the WA then embeds the watermark n times, each

beginning at a starting location determined by a corresponding different one of the n keys, throughout the object in order to yield the watermarked object. All n keys are generated by the WA. These keys are generated once and will be universally used for, e.g., all objects, from whatever publisher or source, that are to be protected *(col. 13 lines 35-49)*. Each watermark key when used in conjunction with a given object necessitate an object dependent interpretation, e.g. specifying, in relative, (scaled) fashion, a starting location, in terms of a relative by address, in that object at which a corresponding watermark begins *(Venkatesan et al., col. 13 lines 52-57)*.

This reads on: *receiving a media content signal* on *selecting an orientation for a digital watermark signal to be embedded in a media content signal* and on *embedding the forensic digital watermark signal at the selected orientation in the content signal.*

19. *Venkatesan et al.* teach that the Watermark Authority *(receiver)* uses pseudo-random number generator to derive all n watermark keys *(Venkatesan et al., col. 1-2)* that define a starting location in a protected objects *(in time, space or frequency)* through a spread sequence predicated on a random seed *(Venkatesan et al., col.13 lines 35-49)*.

20. *Venkatesan et al.* do not explicitly teach a plurality of Watermark Authorities.

21. *Feghhi et al.* indicate that a plurality of authorities *(Feghhi et al., Structures between Multiple Certification Authorities", pg. 84)*. Each of the authorities taught by *Feghhi et al.* has its unique key *(public/private pair key to be exact, pg. 84 explicitly discloses*

authority's public key). The unique key is used in producing an object *(digital certificate)* that uniquely identifies the authority *(Feghhi et al., Fig. 3-2, pg. 67).*

22. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include a plurality of authorities in *Feghhi et al.'s* invention as taught by *Feghhi et al.* One of ordinary skill in the art would have been motivated to perform such a modification in order to make *Feghhi et al.'s* invention scalable.

23. It also would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use an authority's key in such a way that an object created with the authority key identifies the authority *(the receiver)* as taught by *Feghhi et al.* One of ordinary skill in the art would have been motivated to perform such a modification in order to identify and validate the particular authority.

24. Since watermark keys specifying the location of forensic digital watermarks are randomly generated in *Feghhi et al.'s* invention, different receivers would have different forensic digital watermarks, and the selected orientations would vary for different receivers, and as a result the forensic digital watermark would identify a particular receiver.

25. As per claim 1 *Venkatesan et al.* teach applying a different orientation at least across content titles *(Venkatesan et al., col. 13 lines 50-66).*

26. As per claim 19 *Venkatesan et al.* do not limit the invention to a particular content title but anticipates instead the use of various titles *(e.g. "a common object carry the same value, typically a publisher identification concatenated with a product identification, Venkatesan et al., col. 13 lines 26-28).*

27. *Venkatesan et al.* teach the limitation of claims 2-3, 5-8, 12 and 14-17 in col. 13 lines 29-34 and Fig. 17-18 and claim 20 in col. 35 line 66-col. 36 line 13.

28. Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Venkatesan et al. (U.S. Patent No. 6898706)* in view of *Feghhi et al. (Jalal Feghhi, Peter Williams, "Digital Certificates Applied Internet Security, 1999, ISBN: 0201309807)* and further in view of *(U.S. Patent No. 6700989)* in view of *Hashimoto (U.S. Pub. 20010009581)* and *Wendt (U.S. Pub. 2002/0090109)*.

29. *Venkatesan et al.* in view of *Feghhi et al.* teach the forensic digital watermarks as discussed above.

Venkatesan et al. in view of *Feghhi et al.* do not explicitly teach attempting to detect a digital watermark in the content signal, and in response to detecting a digital watermark, embedding the forensic digital watermark at an orientation that does not interfere with the digital watermark.

30. *Hashimoto* teach detecting digital watermark *(first watermark)* in the content signal and teach embedding the forensic digital watermark *(second watermark) (Hashimoto, Abstract),* and *Wendt* suggests embedding watermarks into pre-existing watermark so that they do not interfere.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to detect a digital watermark in the content signal, and in response to detecting a digital watermark, embedding the forensic digital watermark at an orientation that does not interfere with the digital watermark as taught by *Hashimoto* and *Wendt.* One of ordinary skill in the art would have been motivated to perform

such a modification in order to increase content protection while preventing the digital watermark degradation.

31. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Venkatesan et al. (U.S. Patent No. 6898706)* in view of *Feghhi et al. (Jalal Feghhi, Peter Williams, "Digital Certificates Applied Internet Security, 1999, ISBN: 0201309807)* and further in view of *(Katayama et al. U.S. Pub. No. 20020027994).*

32. *Venkatesan et al.* in view of *Feghhi et al.* teach the method of digital watermarking that embeds a digital watermark signal in a media content signal at the selected orientation in the frequency domain, wherein the orientation specifies random beginning frequency alignment of the content signal.

33. *Venkatesan et al.* in view of *Feghhi et al.* do not teach that the orientation specifies random frequency bands.

34. *Katayama et al.* teach the orientation that specifies random frequency bands *(Katayama et al. [22]).*

35. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to configure *Venkatesan et al.* in view of *Feghhi et al.* invention so that the orientation specifies random frequency bands as taught by *Katayama et al.* One of ordinary skill in the art would have been motivated to perform such a modification in order to place limits/restrictions on specific frequency bands.

Conclusion

Claim 2 calls for the random orientation for each of the embedding the digital watermark. Although in the response to the first Office Action applicant clarified that *"each instance"* refers to "a session or across different sessions of embedding in a content signal" the second limitation of claim 2: "such that the orientation of the digital watermark varies for each content title processed by the method" clearly specifies that only the second interpretation (across different session) in this claim is valid.

In light of the second limitation, claim 2 is deemed of the prior art.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571)272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (571) 272-3838. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Signature

12/20/05
Date

David Y. Jung
Primary Examiner

12/23/08